

SS 582 Problems of Ethics

A study of conflicting philosophies of life and ethical theories.

SS 583 American Philosophical Thought

A study of the more original and influential philosophies developed in America from the Colonial period to the present.

GRADUATE STUDIES

THE

MASTER'S DEGREE

STATE COLLEGE

INDIANA, PENNSYLVANIA

1961

1962



LEONARD HALL

Issued Annuilly by the Trurtees of the Indiana State College, Indiana in activation from Online in Indiana, matter 220, 231, 1712.

Pennsylvania under Act of Canyress, August 24, 1912.

THIS COLLEGE IS ACCREDITED BY THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION FOR THE PREPARATION OF ELEMENTARY AND SECONDARY TEACHERS AND TEACHERS IN THE SPECIAL FIELDS OF ART, BUSINESS, HOME ECONOMICS, MUSIC, DRIVER AND SAFETY EDUCATION, DENTAL HYGIENISTS, AND PUBLIC SCHOOL NURSES WITH THE MASTER'S DEGREE AS THE HIGHEST DEGREE APPROVED, AND BY THE MIDDLE STATES ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

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CALENDAR

June 1, 1961—June 1, 1962

Pre-Session, 1	une,	1961
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June 1—Applications for admission to the Graduate Division, for all students who plan to take work during the Pre-Session, must be filed at the Graduate Office on or before this date.

June S—Registration and payment of fees for all graduate students in Pre-Session.

June 9-Pre-Session classes begin.*

June 15—Applications for admission to the Graduate
Division, for all students who plan to take
work during the Main Session, must be filed
at the Graduate Office on or before this date.

June 22-End of classes, Pre-Session.

Main Session®

June 22—Registration and payment of fees for all gradnate students in Main Session.

June 26—Main Session classes begin.

July 20—Applications for admission to the Graduate Division, for all students who plan to take work during the Post-Session, must be filed at the Graduate Office on or before this date.

August 4—End of classes, Main Session.

Post Session

August 3—Registration and payment of fees for all graduate students in Post-Session.

August 7—Classes begin, Post-Session.*

August 18—Classes terminate, Post-Session.

August 24—End of Post-Session.

August 31—Applications for admission to the Graduate Division, for all students who plan to take work during the Fall Semester, 1961-1962, must be filed at the Graduate Office on or before this date.

^{*}During the Pre- and Post-Session classes will meet on ten days. On each day there will be two sessions: one starting at eight o'clock and running to 9:15, with the second starting at 10:45 and running to 12:00. During Main Session graduate students may carry three courses. For each course there will be one class meeting for an hour in length per day.

Fall Semester, 1961-62

September 12-Registration and payment of fees for all grad-

uate students in Fall Semester.

September 14—Evening classes begin.

September 16—Saturday classes begin.

November 22-Thanksgiving vacation begins.

November 27—Thanksgiving vacation ends.

December 18-Christmas vacation begins.

January 1—Christmas vacation ends.

January 16-Applications for admission to the Graduate

Division, for all students who plan to take work during the Spring Semester, must be filed at the Graduate Office on or before this

date.

January 20-Semester ends.

Spring Semester, 1961-62

January 27—Registration and payment of fees for all grad-

uate students in Spring Semester.

January 27—Saturday classes begin.

January 30-Evening classes begin.

March 14—Spring Vacation begins.

March 21—Spring Vacation ends.

April 20-Easter weekend begins.

April 23-Easter weekend ends.

May 19—Classes terminate.

May 23—Semester ends.

UMMER SESSIONS—1961	
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5-TENTATIVE PROGRAM	
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GRADUATE 3	
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	Main Session		Post-Session	
7:45-8:40	9:20-10:15	10:55-11:50		
Math 562 Fundamental Concepts of Analysis	Math 572 Projective Geometry	Math 510 Seminar in Math 1	Mus 530 Music Criticism	4
Mus 50-f Music Literature of the 18th Century	Mus 505 Music Literature of the Early Romantic Era	Math 511 Seminar in Math II	Guid 537 Techniques Used in Counseling	
Mus. 513 Advanced Band Scoring	Mus 501 Advanced Choral Conducting	El 546 Modern Procedures and Skills in Elem. Music	Guid 538 Organ, and Adm. of the Guid. Program	
Guid 531 Philosophy and Principles of Guidance	El 531 Curriculum Problems in Elem. Education	El 544 Recent Trends in Elem. Lang. Arts	Psy 531 Psychology of the Exceptional Child	
Guid 536 Occupational and Educational Information	El 533 Reading Disabilities of Elem, Sch. Children	El 541 Special Problems in Elem, Social Studies	Psy 532 Studies in Child Adj. and Guidance	
Guid 537 Techniques Used in Courseling	Ed 512 Philosophical Founda- tions of Education	El 513 Resource Material in Elementary Science	Psy 5:40 Mental Hygiene	
Geog 527 Middle America and West Indies	Ed 516 Statistical Methods in Education	Mns 532 Seminar in Music Education	Ed 518 Prod, and Use of Aud- Visual Materials	
Sci 546-547 Biochem		The construction of Disorder 1 11	Engs 522 Chancer	
Ed 516 Statistical Methods in Education	Ned 5	Cuid 532 Cuid 532 Psychology of Growth and Development	SS 521 Contemporary American Issues	(
Ed 513 Social Foundations of Education	Guid 531 Philosophy and Prin- ciples of Guidance	Guid 534 Evaluative Methods in Guidance II	SS 510 New Viewpoints in Social Studies	GRADU
Ed 522 Principles and Practices of Speech Improvement	Guid 540 Clinical Techniques in Guidance	Guid 535 Study of the Individual	IIPe 521 Advanced Seminar in Health and Safety— Community-School ICenth Ed. Workshop	JATE STU
EngS 527 Restoration Drama	Geog 532 Mediterranean World	Ed 515 Elements of Research		DIES
El 545 Experimental Studies in Art Education	SS 533 Social and Intellectual History of U. S.	SS 562 Deviant Behavior		BULL
	Fl 521 Language and Society	Engs 521 Modern European Fiction		ETIN
	Bus 521 Economic Background of Business			

TENTATIVE SCHEDULE—1961-1962

Fall Semester

Tu	esday	Eveni	ings - 5:30-7:10
	Geog	531	Northwestern Europe
	Ed	516	Statistical Methods in Education
	Ed	512	Philosophical Foundations of Education
	Guid	533	Evaluative Methods in Guidance I
Тu	esday	Eveni	ngs-7:30-9:10
	Math	510	Seminar in Math I or II
	SS	542	Contemporary Latin American Problems
	Guid	531	Philosophy and Principles of Guidance
Th	ursday	Ever	nings—5:30-7:10
	EngS	534	Types of Novel
	Sci	534	The Solar Family
	Guid	537	Techniques Used in Counseling
	El	531	Curriculum Problems in Elementary Education
Τh		Ever	nings—7:30-9:10
	FL	521	Language and Society
	Sci	543	Embryology 1
	Sci	569	Electricity and Magnetism I
	Psv	532	Studies in Child Adjustment and Guidance
()	Ed	515	Elements of Research
Sat	_		ings—9:00-10:40
	Math	521	Basic Concepts in Math
	Mus	502	Advanced Instrumental Conducting
	Geog	554 536	Physiography of United States
	Guid Art	521	Occupational and Educational Information Contemporary Movements in Art
	Ed	515	Elements of Research
	Guid	551	Individual Diagnosis in Guidance
Sat			ings—11:00-12:40
oat	El	533	Reading Disabilities of Elementary School
	L)	1,51,51,5	Children
	Math	534	Functions of a Complex Variable 1
	Mus	511	Composition
	SS	571	Foreign Policy Studies
	Guid	535	Study of the Individual
	Guid	539	Group Guidance
	Ed	531	Reading Problems of Junior and Senior High
	12.1	= 10	School Students Mental Hygiene
	Ed	540 525	Early English Drama
_	EngS		
	Mus 5		
	Geog	550	may be scheduled on an individual basis through the Chairman of the Geography Department
			the Chairman of the Geography Department

TENTATIVE SCHEDULE—1961-1962

Spring Semester

Tue	esday I	Eveni	ngs-5:30-7:10
	Geog	557	Geographic Research
	Guid	535	
	Ed	513	Social Foundations of Education
Tue	esday I	Eveni	ngs—7:30-9:10
	Math	581	
	SS	592	Comparative Cultures
	Guid	537	Techniques Used in Counseling
Thu	-		ings-5:30-7:10
	EngS	530	Tennyson and Browning
	Sci	532	
	Psy Ed	533	
	Bus	534 521	Diagnosis and Remediation in Reading Economic Background of Business
TI.			
Int			ings—7:30-9:10
	Mus Sci	521 544	Music Literature and Materials
	Sei	570	Embryology II Electricity and Magnetism II
	Psy	531	
	Ed	515	Elements of Research
Sati	irday !	Morni	ings-9:00-10:40
	Math	5S4	Insights into Modern Math
	Mus	533	Comparative Choral Methods
	SS	583	American Philosophical Thought
	Ed Guid	516	Statistical Methods in Education
	Guid	534	
	Guid El	542	Occupational and Educational Information
Sati			Arithmetic in the Elementary School ings—11:00-12:40
Datt	El	541	
	EngS	524	Special Problems in Elementary Social Studies Contemporary Poetry
		535	Functions of a Complex Variable II
	Mus	503	Music Literature of the Baroque Era
	Geog		China, Korea, Japan
	Guid	531	Philosophy and Principles of Guidance
		539	Group Guidance
	Ed	515	Elements of Research

Mus 540-591 will be offered as needed Geog 550 may be scheduled on an individual basis through the Chairman of the Geography Department

GRADUATE STUDIES

at State College

Indiana, Pennsylvania

General Information

Location

Indiana State College is located in Indiana, Pennsylvania, a community with a population of approximately 20,000. Indiana is 30 miles north of Johnstown and 60 miles northeast of Pittsburgh. Situated in the footbills of the Allegheny Mountains, Indiana has a climate that is conducive to study the year round.

College Catalogue

Detailed information about the College, its academic requirements, the names of the faculty, and the facilities are described in the general catalogue. This publication may be obtained by writing to the Registrar.

Library

The College Library provides excellent facilities for graduate work with professional librarians readily available for assisting with specialized reference work.

The present book collection of over 68,000 volumes is supplemented by extensive holdings of periodicals, microfilms, microcards, curriculum materials, federal and state documents, association publications, and phonographic records.

The Rhodes R. Stabley Library was opened in 1961. It is designed to give efficient service through a uniform flow of library materials in an attractive, but functional setting. At least one professional librarian is always on duty to provide reference service.

All periodicals, reference volumes, microfilm and microcard materials are located on the main floor of the library. The book collection arrangement follows the Dewey Decimal Classification System. Books numbered 000 through 600 as well as the reserve book collection are located on the ground floor. Books numbered 700 through 900, fiction, the curriculum materials collection, the children's literature collection and government documents are located on the top floor.

Graduate students are both encouraged and expected to spend time in the Library. Particular attention is given by librarians to graduate students in procurement of needed materials and the further development of proficiencies. The Library subscribes to the spirit and the letter of the General Interlibrary Loan Code which regulates the procurement of interlibrary loans.

With the exception of those books which are reserved for special purposes, all books circulate for two weeks; unbound periodicals for one day. Bound periodicals do not circulate. Students should register for a Library Card which will be needed to take out library materials.

Hours: 7:45-5:00; 7:00-9:00-Monday, Wednesday, and Friday

7:45-5:00-5:00-9:30-Tuesday and Thursday

7:45-5:00—Saturday 2:30-5:00—Sunday

Specific suggestions for the personal use of library materials may be found in the research manual which every graduate student is required to purchase.

Placement Service

Placement is a service offered by Indiana State College to its graduates without charge. The services of the Placement Bureau are available to students who received their Master's degree or who have been accepted as candidates for the degree in the Indiana Graduate Program. Graduate students wishing to take advantage of placement service should complete the necessary forms with the Director of Placement.

Laboratory School

The Laboratory School with an enrollment of 350 students from kindergarten through tenth grade provides an opportunity for graduate students to observe and to participate in problems relating to teaching.

Audio-Visual Center

The Audio-Visual Center provides graduate students with an excellent collection of films, filmstrips, and other audio-visual equipment. Students may learn how to use audio-visual materials through courses offered in this area.

History of the Graduate Program

Graduate work was inaugurated at Indiana State College in September, 1957.

The Graduate Program at Indiana offers work leading to the degree of Master of Education. A student may now complete the requirements for this degree by following any one of ten programs. These programs offer majors in English, Elementary Education. Mathematics, Music Education. Biological Science, Physical Science

ence, Science, Geography, Guidance, and Social Studies. The curriculums for these programs are explained in the following pages under the respective captions.

Admissions Policy for Graduate Study

Admission to the Graduate Study Program at Indiana is governed by the following policy which has been established by the Graduate Council:

- 1. The applicant must present a Bachelor's degree from a college or university that has been accredited by the Middle States Association of Colleges and Secondary Schools or the appropriate regional accrediting agency.
- 2. The applicant must present a transcript of his undergraduate work showing a 2.5 honor point value for all four years of his undergraduate work. The 2.5 assumes a grade of A to have 4 honor points per credit hour, a grade of B to have 3 honor points per credit hour, and a grade of C to have 2 honor points per credit hour. If the applicant's undergraduate record does not meet this 2.5 honor point value, or if he is a graduate of an unaccredited college, he may be admitted by making a satisfactory score on an entrance qualification examination.
- 3. The applicant must possess a Pennsylvania Teacher's Certificate or its equivalent.
- 4. Students applying for the degree in Music Education must present evidence of musical maturity in a formal audition before the Graduate Committee of the Music Education Department.

Admission to Graduate Study does not automatically mean that the student is a candidate for the Master's degree at Indiana. Admission to candidacy for the degree may be granted only after six or more hours of graduate work have been successfully completed at Indiana.

Steps Necessary for Admission

- 1. The applicant will file an application for graduate work with the Director of Graduate Studies. Write to Dr. I. L. Stright, Director of Graduate Studies, for application forms.
- 2. Each applicant will present a transcript of all undergraduate work taken for the Bachelor's degree. Transcripts of previous work taken at Indiana need not be submitted.
- 3. Each applicant may be required to have a personal interview with the Director of Graduate Studies or an assigned faculty member.

Admission to Candidacy for the Degree

The student should complete the following steps to qualify for admission to candidacy:

- 1. Submit an official application for admission to candidacy.
- Submit a transcript of graduate work completed at other institutions.
- Complete at least six semester hours of graduate work at Indiana.
- Receive satisfactory course evaluations from the student's graduate instructors.
- 5. Submit a tentative program of study for the completion of the graduate program.

The application for admission to candidacy, the transcript of the graduate record, and the tentative program of study should be submitted by the student to the Director of Graduate Studies. Acceptance to candidacy requires the approval of the Director of Graduate Studies.

Semester Hours Required

A minimum of thirty semester hours of approved graduate work beyond a Bachelor's degree is required. A student who is teaching full time will be limited to four semester hours of work per semester. The number of semester hours obtained during summer sessions shall not exceed the number of weeks of attendance.

Time Limit

Thirty semester hours must be completed within the five-year period immediately preceding the date when all the requirements for the degree are completed. For justifiable reasons the Graduate Council may extend this period.

Residence

A minimum of ten semester hours will be required to be taken during summer sessions. Courses taken prior to September, 1957, at Indiana State College may not be used as graduate work.

Scholarship Requirement

A candidate must have maintained a grade point average of 3.0 (B), in all work taken after receiving the Bachelor's degree. Only grades of "A", "B", or "C" are acceptable toward a Master's degree. Marking system: grade of "A", 4 quality points; "B", 3 quality points; "C", 2 quality points.

Permanent Certification Requirements

By action of the State Council on Education, all college certificates issued after October 1, 1959, will require the completion of

at least twelve hours of post-baccalaureate work for permanent certification. The plan of the State Council is that after October 1, 1961, the requirement will be eighteen hours of post-baccalaureate work. The projected plan is that this requirement will, within the next few years, be increased to thirty semester hours of post-baccalaureate work to make a college teaching certificate permanent. Many states have already gone this far in their requirements for a permanent teaching certificate.

Certainly all teachers who are able to qualify for admission to a graduate program and who are able to profit by graduate work should be encouraged to do the six to thirty hours in a graduate program and to qualify for an earned Master's degree.

When to Apply for Admission

Application forms for admission may be obtained from the Graduate Office. Applicants are urged to complete the necessary steps for admission as soon as possible. Write to Dr. I. L. Stright. Director of Graduate Studies, State College, Indiana, Pennsylvania.

Scholarships

The Board of Trustees of the Indiana State College has authorized the college Loan and Scholarship Committee to divert some scholarship aid to meritorious graduate students. The following suggestions have been presented by the Loan and Scholarship Committee:

- 1. For the present that one \$50.00 scholarship be awarded each semester to that graduate student who best merits the award.
- 2. Three members of the Graduate Council serve as a committee to recommend the recipient to the Loan and Scholarship Committee.
- 3. Nominations for the award be made to the committee by the Director of Graduate Studies.
- 4. To be eligible for nomination the student must have completed twelve semester hours of graduate work at Indiana and be an approved candidate for the Master of Education degree at Indiana.

Undergraduate Summer Program

Indiana State College maintains a comprehensive program of undergraduate instruction throughout the summer. Detailed information on the undergraduate program may be obtained by writing to the Dean of Instruction for the undergraduate Summer School Bulletin.

Veterans

Indiana is approved to offer training under the Korean G.I. Bill (Public Law 550) and Public Law 894 (disabled Korean veterans).

Students who are entitled to training under one of these bills should contact the Veterans Counselor immediately after being accepted for admission to Indiana. The Office of the Veterans Counselor is in Room 101, Whitmyre Hall.

Auditors

Students not eligible to enroll for credit or not interested in credit may enroll as auditors. Course fees are the same as those required of persons enrolled for credit.

Housing Facilities

Room reservations can be made by writing to the Dean of Women. An advance registration deposit will not be required to reserve a room for summer sessions.

Students are not expected to room alone. Therefore, prospective students are urged to apply in pairs. In this way each student is assured a congenial roommate. Single applications are handled to the best possible advantage, but the college prefers that students make their own choices whenever possible. Applications for rooms are filed in the order in which they are received. Students are requested to write to the Dean of Women if there is any preference in rooms, and to indicate whether a room with or without water is desired. The college will give preferences to those whose reservation deposit has been paid in advance.

Men in the Indiana Graduate Program who desire housing facilities for the summer should write for information and reservations to the Dean of Men. All housing arrangements should be cared for as early as possible.

The housing fee, which includes room, board, and laundry, is \$16.00 per week.

Transfer of Credit

Six semester hours of graduate work taken at another accredited graduate school may be transferred to the Indiana Master's Degree Program. In all cases a request for transfer of credit must have approval of the Credit Evaluation Committee established by the Graduate Council.

Fees

Tuition Fee \$15.00 per semester hour Tuition Fee for Music Education Students will be \$20.00 per semester hour for all courses except private instruction which will be charged at the rate of \$24.00 per semester hour.

- Activity Fee (charged in summer session only). The activity fee for the regular summer session is \$7.00, and \$2.50 each for the pre- and post-session.
- Late Registration Fee Up to \$5,00 will be assessed a student who fails to complete registration, including payment of fees, on the dates and within the hours specified in the published procedure for registration for any particular semester or term.
- Master's Cap and Gown Fee Candidates who have been accepted by the Graduate Division for the Master's degree are required to purchase or rent from the college bookstore a Master's cap and gown to be worn at the graduation exercises. The cap and gown rental fee is nominal.
- Master's Hood Fee Candidates who have been accepted by the Graduate Division for the Master's degree are required to purchase or rent from the college bookstore a Master's hood to be worn at the graduation exercises. The Master's hood rental fee is nominal.
- Thesis or Research Project Binding Expense The binding of the required copies of the thesis or the research project is an expense which must be cared for by each graduate candidate. The current charge for binding a thesis is \$4.00 per copy and for binding a research project. \$1.00 per copy.
- Refunds If a student reduces his session schedule or withdraws from the program after 1/5 of any session or semester has elapsed pro-rated tuition fees will be returned only in the case where the change in schedule is due to a health condition verified by a Medical Doctor's statement.

Course Load

During the academic year a graduate student who is teaching full time is limited to a maximum of four semester hours of graduate work per semester.

During the summer sessions a graduate student may earn up to a maximum of ten semester hours of work.

Programming and Registration

New applications for admission to the Indiana Graduate Program must be submitted in accordance with the calendar which appears in the beginning of this bulletin. Each graduate student also must submit to the Graduate Office a program of courses for approval for any given semester or summer session in advance of the time specified for registration and payment of fees.

Curriculum for Master of Education Degree

"The education of a teacher needs to be seen as a whole, for it is the final product which is important rather than the content of any one stage. The aim of the process is to produce men and women whose intellectual and cultural backgrounds are broad and deep, who know the material they are to teach and who can present it skillfully. The balance among the three factors in the objectives of a particular graduate student's program will vary with the candidate's previous background and to some extent in view of the age group and subjects he will teach, but none of the three may be neglected."

In each of the several programs leading to the Master's degree at Indiana, the student takes work in four categories. In the first category he must take at least 14 hours and may do up to 22 hours in Content Courses in the particular program in which he is working. In the Content Courses the student is expected to enrich and increase his knowledge in his subject area field.

The second is entitled Professional Studies in which he must complete from 4 to 10 hours of work. The work in this area is designed to supplement the Professional Studies of his undergraduate program and to increase the student's general knowledge of the teaching-learning process and of basic professional problems.

In the third place, all students must take at least one course in the area of Foundations of Education. Courses in this area are designed to help the student realize the important place of public education in America.

In the fourth area every student must complete the course entitled Elements of Research. Research plays an important part to the graduate student in any of the Indiana programs. The research training should enable the student to acquire the techniques of research as well as to be able to interpret and comprehend current research as it is applied to a teacher's particular position.

Objectives and Philosophy of the Graduate Program

The primary purposes of the Graduate Program at Indiana, which leads to the degree of Master of Education, are to increase the competence of the general classroom teacher: to stimulate a greater awareness of educational philosophies and problems in order that teachers may assume more responsible roles in the educational program of their communities; and to provide an incentive for continued professional growth. Probably the principal characteristic of the Indiana Graduate Program is its primary objective—to help good teachers become better teachers.

Document 4.73, Middle States Association of Colleges and Secondary Schools, Commission on Institutions of Higher Education.

Student Responsibility

The graduate student is expected to know the requirements for the degree he plans to earn. While the officers and teachers of the Graduate Division will endeavor to aid in any way possible, the responsibility for any error in his own enrollment or in the interpretation of the requirements rests with the student.

Graduate Study in Reading

Elementary teachers interested in reading may apply six (6) semester hours of work in the area of professional studies in the Elementary Program. Junior and Senior High School teachers majoring in English may apply six (6) semester hours of work in the professional studies area in the English program. Reading will be written on the certificate valid for English when an applicant has completed a minimum of six (6) semester hours in developmental and remedial reading.

Normally a student will follow this sequence:

- Elementary teachers will take El 533 as the initial course and then follow with Ed 534-535.
- Secondary teachers will start with Ed 531 and follow with Ed 534-535.

CERTIFICATION OF GUIDANCE COUNSELORS

The following statement has been issued by the Department of Public Instruction, Bureau of Teacher Certification. These requirements became effective October 1, 1960. In Part C following each area the course or courses in the Indiana Graduate Program are listed.

Provisional Certificate Qualifications:

- A. Must have at least a provisional certificate to teach; or a Master's Degree from an approved school of social work plus an additional six semester hours of credit in the following areas:
 - 1. Principles of elementary or secondary education.
 - 2. Elementary or secondary school curriculum.
- B. Must have had two years of successful teaching, social work or professional counseling experience.
- C. Must have completed eighteen semester hours of graduate work distributed in the following areas:
 - 1. Philosophy and Principles of Guidance Guid 531 Philosophy and Principles of Guidance

°2. Growth and Development of the Individual in Childhood and Adolescence

Guid 532 Psychology of Growth and Development Psy 533 The Psychology of Personality

*3. The Study of the Individual

Guid 535 The Study of the Individual

Psy 532 Studies in Child Adjustment and Guidance

4. Tests and Measurements

Guid 533-

534 Evaluative Methods in Guidance I, H

°5. Collecting, Evaluating and Using Occupational, Educational and Related Information

Guid 536 Occupational and Educational Information

6. Administrative and Community Relationships Guid 538 Organizing and Administering the Guidance Program

°7. Techniques Used in Counseling Guid 537 Techniques Used in Counseling

 Group Guidance Guid 539 Group Guidance

 Supervised Experience in Counseling Guid 540 Clinical Techniques in Guidance Guid 551 Individual Diagnosis in Guidance

Permanent Counselor Certificate Qualifications:

- A. Must have a provisional counselor's certificate.
- B. Must have had three years of successful counseling. This experience should consist of at least half-time each week spent in counseling duties in a public elementary or secondary school.
- C. Provisional Counselor College Certificates issued after October 1, 1959, shall require for validation for the permanent form of the certificate the completion of Master's Degree or its equivalent on the field of school counseling and guidance.
- D. Provisional Counselor College Certificates issued after October 1, 1961, shall require for validation for the permanent form of the certificate the completion of Master's Degree or its equivalent°° in the field of school counseling and guidance, plus six additional graduate semester hours.
- E. Provisional Counselor College Certificates issued after October 1, 1963, shall require for validation for the permanent

[°]Required Areas—At least one (1) course is required in each. °Master's Degree in Social Work.

form of the certificate the completion of Master's Degree or its equivalent" in the field of school counseling and guidance, plus twelve additional graduate semester hours.

F. Provisional Counselor College Certificates issued after October 1, 1965, shall require for validation for the permanent form of the certificate the completion of Master's Degree or its equivalent on the field of school counseling and guidance, plus eighteen additional graduate semester hours.

These additional hours of study shall be completed in at least three of the following areas: administration; supervision: curriculum; advanced course in Psychology, including Human Growth and Development; advanced courses in Measurement and Educational Statistics; and advanced courses in Guidance and Counseling

° "Master's Degree in Social Work.

See the Indiana Curriculum in Guidance as it appears in the following section.

Note: D. E. and F. under Permanent Counselor Certificate Qualifications are continued on the agenda of the State Council of Education pending change in legislation.

CURRICULUMS FOR THE MASTER OF EDUCATION DEGREE

BIOLOGY

Curriculum for Master of Education Degree

Students working for this degree with a major in Biology will complete the thirty (30) semester hours of work in accordance with the following divisions:

CHVIS	isions:		
I.	 SUBJECT MATTER CONCENTRATION A two (14-22) semester hours of work in subje- selected from the following courses: 	AREA—fourteen to t ect matter content is	wenty- s to be
	Sci 531 Atomic Structure Sci 532 Interrelationships in Science		2 s.h. 2 s.h.
	Sci 533 History of Science, Scientific Litera	iture, and Terminol-	2 s.h.
	Sci 534 The Solar Family Sci 541-		2 s.h.
	542 Comparative Anatomy I, II Sci 543— 544 Embryology I, II		4 s.h.
	Sci 551—		2 s.h.
	552 Taxonomy of Plants I, II . Sci 553—		4 s.h.
	554 Taxonomy of Animals I, II Sci 555 Principles of Plant and Animal Dis Sci 561 Plant Structure Sci 562 Animal Physiology Sci 563 Physiology of Plants Sci 564 Problems in Biology	tribution .	4 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h.
11.	including Research Paper or the Thesis, to be seed 516 Statistical Methods in Education I Ed 518 Production and Use of Audio-Visus	elected from the following	owing: 2 s.h.
111.) semester hours of n ation	
IV.	RESEARCH TECHNIQUES—the following cobe scheduled early in the student's program: Ed 515 Elements of Research		
	ELEMENTARY EDUCATION		2 s.h.
	ELEMENTAKI EDUCATI	JIN	

Curriculum for Master of Education Degree

Students working for this degree in Elementary Education will complete the thirty (30) semester hours of work in accordance with the following

divisio		(1307)	whester nours or work in accordance with	.n ene	ronowing
1.	GENI	ERAL	STUDIES-fourteen to eighteen (14-18) so	emester	hours of
	work	in Ger	neral Studies to be selected from the follow	ing com	rses:
	Art		Contemporary Movements in Art		
	Bus		Economic Backgrounds of Business		
	HE	521	Problems in Family Living		2 s.b.

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	Mus EngS Ed EngS EngS FL Geog HPe Math Sci SS SS	522 523 524 525 521 522 521 521	Music Literature and Materials Modern European Fiction Principles and Practices in Speech Improvement The Development of Modern English Contemporary Poetry The Early English Drama Language and Society Applied Linguistics Advanced Human Geography Advanced Seminar in Health and Safety Basic Concepts in Mathematics Recent Advances in Science Contemporary American Issues Foreign Policy Studies Social Policy Studies	2 s.h. 2 s.h.
11.	PROF includ	ESSIC	ONAL STUDIES—eight to ten (8-10) semester hours of search Paper or the Thesis, to be selected from the follows:	work
	Ed Ed Ed	516 518 534– 535	Statistical Methods in Education I Production and Use of Audio-Visual Materials Diagnosis and Remediation in Reading-Theory and Clinical Practice each	2 s.h. 2 s.h. 2 s.h.
	Ed El El El El El El Psy Psy	550 531 533 541 542 543 544 545 546 531	Thesis 2 to Curriculum Problems in Elementary Education	1 s.h. 2 s.h.
Ш.			IONS OF EDUCATION—two (2) semester hours of ed from the following courses:	
	Ed Ed Ed	511 512 513	Historical Foundations of Education Philosophical Foundations of Education Social Foundations of Education	2 s.h. 2 s.h. 2 s.h.
۱۱.			I TECHNIQUES—the following course is required. It dearly in the student's program:	Should
	Ed	515	Elements of Research	2 s.h.

ENGLISH

Curriculum for Master of Education Degree

Students working for this degree with a major in English will complete the thirty (30) semester hours of work in accordance with the following divisions:

 SUBJECT MATTER CONCENTRATION AREA—fourteen to twentytwo (14-22) semester hours of work in subject matter content is to be selected from the following courses:

EngS 521	Modern European Fiction	2 s.h.
EngS 522	Chancer	2 s.h.
EngS 523	The Development of Modern English	2 s.h.
EngS 524	Contemporary Poetry	2 s.h.
EngS 525	The Early English Drama	2 s.h.
EngS 526	Shakespeare and His Contemporaries	2 s.h.

	EngS EngS EngS EngS EngS FL	528 529 530 531A 531B 532 533 534 535 521	Restoration Drama Milton Wordsworth and Keats Tennyson and Browning Major Writers (Emerson, Thoreau, and Hawth Major Writers (Faulkner and Hemingway) Styles of Acting British Drama since 1880 Types of the Novel Criticism Language and Society	2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h.
II.			DNAL STUDIES—four to ten (4-10) semester be search Paper or the Thesis, to be selected from the Statistical Methods in Education 1 —	he following:2 s.h2 s.h. School
	Ed Psy Psy EngS EngS EngS EngS	$\frac{549}{545}$	Students Diagnosis and Remediation in Reading-Theory Clinical Practice Thesis Psychology of the Exceptional Child Studies in Child Adjustment and Guidance The Teaching of English in the Secondary Sch Bibliographical Methods in English Seminar in Play Production I Seminar in Play Production II	y and each 2 s.h. 2 to 4 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h.
111.			IONS OF EDUCATION—two (2) semester he ed from the following courses:	ours of work
	Ed Ed Ed	511 512 513	Historical Foundations of Education Philosophical Foundations of Education Social Foundations of Education	2 s.h.
IV.	RESE. be sel	ARCH redule	TECHNIQUES—the following course is required early in the student's program:	ed. It should
	Ed	515	Elements of Research	2 s.h.
			GEOGRAPHY	
		(Curriculum for Master of Education Degree	
	airty (sing for this degree with a major in Geography venester hours of work in accordance with the	
1.	two (selecto (mini	14-22 ed fro mum)	MATTER CONCENTRATION AREA—fourteer) semester hours of work in subject matter con m the following courses: 14 semester hours in , 8 additional hours in Geography and/or relate e approved by department.	tent is to be - Geography
			Courses to be offered:	
	Geog	521 522 523 525— 545	Advanced Human Geography Political Geography Urban Geography Seminars in Regional Geography	2 s.h.
	Geog	550A-		
	Geog	550B 552	Geographic Readings	2 or 4 s.h. 2 s.h.

Geog 5	54	Physiography of the United States	2	s.h.
Geog 5	555	Advanced Cartography	-2	s.h.
Geog 5	56	Map and Photographic Interpretation	2	s.h
Geog 5	663	Field Course in Geography	-2	s.b.

Courses above 545 are not recommended for other than geography, social science or science majors,

II. PROFESSIONAL STUDIES—four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following.

Ed	516	Statistical Mcthods in Education 1			2	s.h.
Ed		Production and Use of Audio-Visual Materials			-5	s.h
Ed	550	Thesis	2	to	1	s.h.
Psv	531	Psychology of the Exceptional Child			.2	5.11.
Psi	532	Studies in Child Adjustment and Guidance			2	s.h.
Geog	551	Professional Problems in Geographic Education			-2	s.h.

III. FOUNDATIONS OF EDUCATION—two (2) semester hours (1 work to be selected from the following courses:

Ed	511	Historical Foundations of Education	2 s.h.
Ed	512	Philosophical Foundations of Education	2 s.h.
Ed	513	Social Foundations of Education	2 5.14.

IV. RESEARCH TECHNIQUES—the following course is required. It should be scheduled early in the student's program:

Ed 515 Elements of Research 2 s	٠.!	1	١.	
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GUIDANCE

Curriculum for Master of Education Degree

Students working for this degree with a major in Guidance will complete the thirty (30) semester hours of work in accordance with the following divisions:

 SUBJECT MATTER CONCENTRATION AREA-fourteen to twentytwo (14-22) semester hours of work in subject matter content is to be selected from the following courses:

		· · · · · · · · · · · · · · · · · · ·		
Guid Guid	531 532	Philosophy and Principles of Guidance Psychology of Growth and Development		s.h. s.h.
Guid				
	534	Evaluative Methods in Guidance 1, II	-	s.h.
Guid	535	The Study of the Individual		s.h.
Guid	536	Occupational and Educational Information	_	s.h.
Guid	537	Techniques Used in Counseling		s.h.
Guid	538	Organizing and Administering the Guidance Program	2	S.Jr.
Guid		Group Guidance		s.h.
		Clinical Techniques in Guidance	_	s.h.
Guid	551	Individual Diagnosis in Guidance		s.h.

°Ed 516 is required of all Guidance majors, and is a prerequisite for Evaluative Methods in Guidance.

°°Psy 531 and Psy 532 might be used in lieu of some of the above where they have already been taken at the undergraduate level, and where all requirements of the Professional Area have been completed. They could not, however, be used to satisfy requirements in both areas where the credits overlap.

Note: The student should refer to the Course Description in the following section for prerequisites to the various courses in the Guidance Program.

Math 511

		Statistical Methods in Education II Production and Use of Audio-Visual Material Thesis Psychology of the Exceptional Child Studies in Child Adjustment and Guidance	the following.					
111.	FOUNDA' to be selec	TIONS OF EDUCATION—two (2) semester cted from the following courses:	hours of work					
	Ed 511 Ed 512 Ed 513	Philosophical Foundations of Education	2 s.h. 2 s.h. 2 s.h.					
IV.	be sehedu	CH TECHNIQUES—the following course is required early in the student's program: Elements of Research						
	MATHEMATICS							
		Curriculum for Master of Education Degree						
plete divisi	the thirty (orking for this degree with a major in Mathema (30) semester hours of work in accordance with	itics will com- the following					
1.	two (14-2	MATTER CONCENTRATION AREA—fourte 22) semester hours of work in subject matter corom the following courses:	en to twenty- ontent is to be					
	Math 521 Math 530 Math 531	Differential Equations	2 s.h. 2 s.h.					
	532 Math 533 Math 534	Infinite Comm	4 s.h. 2 s.h.					
	535 Math 536 Math 561 Math 562 Math 571 Math 572 Math 583 Math 581 Math 588 Math 583 Math 583 Math 583	Functions of a Real Variable Foundations of Algebra Modern Algebra Fundamental Concepts of Analysis Modern Geometries Projective Geometry Topology Symbolic Logic Advanced Statistics Theory of Probability Linear Programming Insights Into Modern Mathematics	4 s.h. 2 s.h.					
11.	PROFESS including	SIONAL STUDIES—four to ten (4-10) semester Research Paper or the Thesis, to be selected from						
	Ed 516 Ed 518 Ed 550 Psy 531 Psy 532 Math 510	Production and Use of Audio-Visual Material Thesis Psychology of the Exceptional Child Studies in Child Adjustment and Guidance	2 s.h. 2 to 4 s.h. 2 s.h.					

Geom) 2 s.h. Seminar in Mathematics II (Sr. H. S. Math) 2 s.h.

17.70	JUNCES	IE.NI	OF GRADUATE SESSIONS	23
111.			IONS OF EDUCATION—two (2) semester hours of ed from the following courses:	t work
	Ed Ed Ed		Historical Foundations of Education Philosophical Foundations of Education Social Foundations of Education	2 s.h. 2 s.h. 2 s.h.
IV.	RESE be sel	ARCE hedule	I TECHNIQUES—the following course is required. It dearly in the student's program:	should
	Ed	515	Elements of Research	2 s.h.
			MUSIC EDUCATION	
		(Curriculum for Master of Education Degree	
comp		e thirt	king for this degree with a major in Music Education of y (30) semester hours of work in accordance with the second of the control of the con	
1.			STUDIES—Four to six (4-6) semester hours of work m the following courses:	t Du
	Art EngS EngS EngS SS	521 521 531A 531B 521 561	Contemporary Movements in Art Modern European Fiction Major Writers (Emerson, Thoreau, and Hawthorne) Major Writers (Faulkner and Hemingway) Contemporary American Issues Social Policy Studies	2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h.
11.	SUBJ.	ECT 1 ter ho	MATTER CONCENTRATION AREA—ten to twelve (are of work in subject matter content is to be selected ag courses:	10-12
۰	Mus Mus Mus Mus Mus Mus Mus Mus Mus Mus	501 502 503 504 505 506 507 511 512 513 514 516 530 540	Advanced Choral Conducting Advanced Instrumental Conducting Music Literature of the Baroque Era Music Literature of the ISth Century Music Literature of the Early Romantic Era Music Literature of the Late Romantic Era Music Literature Since 1900 Composition Advanced Orchestration Advanced Band Scoring Advanced Choral Arranging Canon, Double Counterpoint and Fugue Form and Analysis Music Criticism	2 s.h. 2
	VIII	591	Applied Music	4 <.11.
111.	PROF work,	ESSIC includ	DNAL STUDIES—ten to twelve $(10\text{-}12)$ semester lighting the Thesis or Recital, to be selected from the following	owing:
o	Ed Psy Psy Nus Mus Mus Mus Mus Mus Mus Mus Mus	516 550 531 532 531 532 533 534 535 536	Statistical Methods in Education I. Thesis or Recital	2 s.h. 4 s.h. 2 s.h. 3

*These courses are required. Where bracketed, one course in that area is required.

2 s.h.

11.		TIONS OF EDUCATION—two (2) semester hected from the following courses:	ours of work
	Ed 511 Ed 512 Ed 513	Philosophical Foundations of Education	2 s.h. 2 s.h. 2 s.h.
١.		CH TECHNIQUES—the following course is requireled early in the student's program:	red. It should
	Ed 515	6 Elements of Research	2 s.h.
		PHYSICAL SCIENCE	
		Curriculum for Master of Education Degree	
comp	students w lete the th g divisions	orking for this degree with a major in Physical irty (30) semester hours of work in accordance :	Science will with the fol-
l.	two (14-	MATTER CONCENTRATION AREA—fourtee 22) semester hours of work in subject matter corrom the following courses:	n to twenty- ntent is to be
	Sci 531 Sci 532 Sci 533	Atomic Structure Interrelationships in Science History of Science, Scientific Literature, and Ter	2 s.h. 2 s.h.
	Sci 534 Sci 546-	ogy The Solar Family	2 s.h. 2 s.h.
	547 Sci 548-	Biochemistry I, H	4 s.h.
	549 Sci 565-	Physical Chemistry 1, 11	4 s.h.
	566 Sci 567-		4 s.h.
	568 Sei 569-	Analytical Mechanics I, II	4 s.h.
	570 Sci 571 Sci 572	Electricity and Magnetism I, II Advanced Laboratory Practice Demonstrations in Chemistry and Physics	4 s.h. 2 s.h. 2 s.h.
Н.		SIONAL STUDIES—four to ten (4-10) semester h Research Paper or the Thesis, to be selected from t	
	Ed 516 Ed 518 Ed 550 Psy 531 Psy 532 Sci 510	Statistical Methods in Education 1 Production and Use of Audio-Visual Materials Thesis Psychology of the Exceptional Child Studies in Child Adjustment and Guidance Problems in Science Education	2 s.h. 2 s.h. 2 to 4 s.h. 2 s.h. 2 s.h. 2 s.h. 2 s.h.
111.	FOUNDA to be sele	TIONS OF EDUCATION—two (2) semester hected from the following courses:	ours of work
	Ed 511 Ed 512 Ed 513	Historical Foundations of Education Philosophical Foundations of Education Social Foundations of Education	2 s.h. 2 s.h. 2 s.h.
IV.		CH TECHNIQUES—the following course is requiralled early in the student's program:	ed. It should

Ed 515 Elements of Research

SCIENCE

Curriculum for Master of Education Degree

Students working for this degree with a major in Science will complete the thirty (30) semester hours of work in accordance with the following divisions:

1.	SUBJECT MATTER CONCENTRATION AREA-fourteen to twenty-
	two (14-22) semester hours of work in subject matter content is to be
	selected from the following courses:

· .							
Sci	531	Atomic Structure			2	١.	1.
Sei	532	Interrelationships	in	Science	.7	\ I	1

Other courses to be selected from the major in Biology and Physical Science at discretion of candidate's committee. 14-22 s.h

II. PROFESSIONAL STUDIES—four to ten (4-10) semester hours of work, including Research Paper or the Thesis, to be selected from the following:

Ed = 5	16 Statistical Methods in Education I	2 s.h.
Ed = 5	18 Production and Use of Audio-Visual Materials	2 s.h.
Ed = 53	50 Thesis	2 to 1 s.h.
Psy 53	31 Psychology of the Exceptional Child	2 s.h.
Psy 53	32 Studies in Child Adjustment and Guidance	2 s.h.
Sci 5	10 Problems in Science Education	2. s li

III. FOUNDATIONS OF EDUCATION—two (2) semester hours of work to be selected from the following courses:

Ed	511	Historical Foundations of Education	2 s.	h.
Ed	512	Philosophical Foundations of Education	2 5.	h.
Ed	513	Social Foundations of Education	2 5.	h.

IV. RESEARCH TECHNIQUES—the following course is required. It should be scheduled early in the student's program:

$_{\rm Ed}$	515	Elements of	Research	2 s.h.
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SOCIAL STUDIES

Curriculum for Master of Education Degree

Students working for this degree with a major in Social Studies will complete the thirty (30) semester hours of work in accordance with the following divisions:

SUBJECT MATTER CONCENTRATION AREA-fourteen to twenty-two (14-22) semester hours of work in subject matter content is to be selected from the following courses: A minimum of 12 semester hours is to be elected in the Social Studies field. A maximum of four semester hours may be elected in allied fields (Geography, English, Foreign Language). Courses must be elected in four of the six Social Studies divisions.

HISTORY

LLIO				
SS	531	Economic and Social Hist, of Penna.		2 s.h.
SS	532	U. SBritish Commonwealth Relations		2 s.h.
SS	533	Social and Intellectual Hist, of U.S.		2 s.h.
SS	541	Modern European Problems		2 s.h.
SS	542	Contemporary Latin American Problems		2 s.h.
SS	543	Modern Asian-African Problems		2 s.h.

	ECONOMICS							
	SS 551 SS 552 SS 553	International Economics Comparative Economic Systems Contemporary Economic Issues		2 s.h 2 s.h 2 s.h				
	POLITIC	AL SCIENCE						
	SS 521 SS 571 SS 572 SS 573	Contemporary American Issues Foreign Policy Studies Comparative Political Studies Regional Political Studies		2 s.h 2 s.h 2 s.h 2 s.h				
	SOCIOLO	OGY						
	SS 561 SS 562 SS 563	Social Policy Studies Deviant Behavior Intergroup Relations		2 s.h 2 s.h 2 s.h				
	PHILOSO	РНҮ						
	SS 581 SS 582 SS 583	Problems in Logic Problems of Ethics American Philosophical Thought		2 s.h 2 s.h 2 s.h				
	ANTHRO	POLOGY						
	SS 591 SS 592 SS 593	Studies in Anthropology Comparative Cultures The Science of Culture		2 s.h. 2 s.h. 2 s.h.				
11.	PROFESSIONAL STUDIES—four to ten (4-10) semester hours of work including Research Paper or the Thesis, to be selected from the following							
	Ed 516 Ed 518 Ed 550 Psy 531 Psy 532 SS 510 SS 514	Statistical Methods in Education Production and Use of Audio-Viss Thesis Psychology of the Exceptional Cl Studies in Child Adjustment and New Viewpoints in Social Studies Research Methodologies in the So	ual Materials	2 s.h 2 s.h 4 s.h 2 s.h 2 s.h 2 s.h 2 s.h				
Ш.		TIONS OF EDUCATION—two (exted from the following courses:	2) semester hours of	work				
	Ed 511 Ed 512 Ed 513	Historical Foundations of Educat Philosophical Foundations of Education Social Foundations of Education	ion . cation	2 s.h. 2 s.h. 2 s.h.				
IV.	RESEARC	CH_TECHNIQUES—the following o	course is required. It s	shonld				
		iled early in the student's program: Elements of Research		2 s.h.				

Research Requirements for the Degree

The candidate for the Master of Education degree at Indiana must satisfy the research requirements as established by the Graduate Council. He has a choice of writing a thesis on a problem of his particular interest for which two to four hours of graduate credit may be given. It is thus possible for him to complete the requirements for the degree by doing twenty-six semester hours in course work plus a four-hour thesis. If he elects not to write a thesis, he then must complete thirty semester hours in courses and in addition must fulfill the research requirement by preparing a research project.

The Thesis

After filing application for admission to candidacy for the degree, the candidate must then file a research option form in which he indicates his choice of doing a Master's degree thesis or the research project. If he elects to do a thesis he must prepare an outline of the proposed thesis including the identification of the problem which he proposes to investigate, his proposed procedures for carrying out the investigation, and the manner in which he expects to interpret the results. This is then taken to a member of the graduate faculty selected by the candidate with the approval of the Director of Graduate Studies. The member of the graduate faculty selected will serve as the candidate's adviser and chairman of the thesis committee. In addition to the adviser, the thesis committee consists of the department chairman in the student's field, the coordinator of research, and other members of the graduate faculty. This committee meets with the candidate, studies the proposed problem and approves or disapproves the thesis. If approval is given, the committee indicates the number of credit hours to be given.

The Professional Project

For those who do not do a thesis the professional project is an important part of the Master's degree program offered by Indiana State College. This feature of the graduate program gives the student an opportunity to demonstrate his professional competence in a practical situation while teaching or in a laboratory situation while in residence. The purpose of the professional project is to influence and improve school practice and procedures.

The student is encouraged to select some area in a school situation which needs study and improvement. For those in the field, the project should be developed and put into practice, so that concrete and measurable results may be obtained.

For those not teaching at the time, the project should demonstrate the ability of the student to select, organize, and present the results of professional investigation in an area of major interest.

Before it is officially undertaken, the project must be planned with the candidate's adviser, and the plan must be formally approved by the Director of Research, the adviser, and the Director of Graduate Studies.

Guidelines to students for completing a professional project:

- 1. Course in "Elements of Research": While taking this course the student should decide whether he elects to do a thesis for credit or a professional project. In this course he should formulate his ideas on the selection of a topic. He should learn how to use research materials, to prepare a project outline, and to understand the nature of the formal written report.
- 2. Plan for the project: The choice of topic and plan of the project should be worked out in consultation with the student's adviser. The student should present, in outline form, a "Research Proposal."
- 3. The student secures approval of the plan from the Director of Research, the adviser, and the Director of Graduate Studies.
- 4. The student should attend any seminars which deal with the preparation of a thesis or research project.
- 5. The student should begin to write the report of his project as soon as possible. Rough drafts should be submitted to the adviser for correction and suggestions. The student should follow Campbell's "Form and Style in Thesis Writing."
- 6. Acceptance of project: Four copies of the final project should be submitted, through the adviser, to the Director of Graduate Studies. Final acceptance rests with a graduate committee and the Director of Graduate Studies.

An acceptable project should show evidence that the candidate:

- 1. Has comprehended the essentials of his problem, has followed a well organized plan of work, and has presented satisfactory solutions.
- 2. Has made an independent and intensive study of his problem.
- 3. Has made a comprehensive study of the literature in his field.
- 4. Has shown a command of effective and fluent English with the ability to write in a professional style.
- 5. Has reached conclusions and recommendations that are justified by his findings and experiences.
 - 6. Has a practical working knowledge of research procedures.
- 7. Has produced a project of definite value to the educational profession.

Final Conference

After the student has submitted a final draft of his thesis or research project, a final conference is held at which time the student has the opportunity to orally present the results of his thesis or research project. In the case of a thesis, members of this conference are the student's thesis committee. For the research project, the final conference is conducted by the student's adviser plus two or three other members of the graduate faculty named by the Director of Graduate Studies.

Deadline Dates for Final Drafts

Students who expect to receive the Master's degree at the January Commencement should file the final draft of their research projet or thesis not later than December 1. For those who expect to receive the degree at the May Commencement, the final drafts must be submitted by April 1. Those expecting to graduate in August must submit their final drafts by July 15.

The Advisory System

The purpose of the advisory system is to insure that the student's work follows a coherent, well-balanced, and unified program for his professional growth and development. The advisory responsibility falls into two parts:

- 1. Prior to admission to candidacy: At this stage the advisory function is essentially the responsibility of the Director of Graduate Studies and includes the following:
 - a. To assist the student in preparing his plan of graduate study.
 - b. To recommend the student for admission to candidacy upon completion of the necessary requirements.
 - c. To aid the student in the selection of an adviser for completion of degree requirements after he is accepted for candidacy.
 - d. To encourage the student to attend seminars for the discussion of the nature of the graduate program.
- 2. After acceptance of candidate for the degree: The graduate student will be assigned, or may choose with the approval of the Director of Graduate Studies, a faculty adviser to assist him in his graduate work. Necessary changes in advisers may be made at the discretion of the Director of Graduate Studies. This adviser should be competent in the student's area of specialization, as his primary responsibility is to assist the student in choosing, preparing, and presenting his thesis or project in oral and written form as a demonstration of professional competence.

COURSE DESCRIPTIONS

ART

Art 521 Contemporary Movements in Art

Current philosophies and trends in fine arts and art education as they apply to human growth and development will be studied. Research and round table discussion of contemporary art forms will help the student to discover the concepts involved in art expression and how they evolved.

El 545 Experimental Studies in Art Education

(See Elementary Education)

BUSINESS

Bus 521 Economic Backgrounds of Business

This course is designed to provide a thorough overview of the economic environment in which business and other agencies must operate. The student will gain a broad perspective of business operations through such topics as business organization and management, consumption of goods, business risks, the business cycle, budgeting and investments.

EDUCATION

Ed 511 Historical Foundations of Education

A study of the European influence on early American education, the development of the various types of schools and their modifications as influenced by educational movements at home and abroad, and the leaders connected with these movements will be presented.

Ed 512 Philosophical Foundations of Education

This course will consider the new developments in scientific methodology, theories of curriculum and method, and the development of principles upon which to base instruction.

Ed 513 Social Foundations of Education

This course will deal with those social and cultural forces which influence education and the ways in which education has been affected by them. Particular stress will be placed upon current problems as they relate to the entire educational system and to curricular problems and practices in today's schools.

Ed 515 Elements of Research

Selection of a research problem, collection of data, types of research, the research report, and the use of the library in connection with the research problems will be studied. Elements of

statistics are introduced. This course provides background for the preparation of the thesis or research project, and enables the student to become an intelligent consumer of the products of educational research.

Ed 516 Statistical Methods in Education 1

Consists of measurement and statistical techniques as used in teaching, school administration, and common educational research. The basic descriptive statistics, including measures of central tendency, variability, and correlation will be developed. The reliability and validity of test scores will also be discussed. Emphasis will be placed upon the use of the statistical techniques studied and their interpretation.

Ed 517 Statistical Methods in Education II

Advanced statistical devices for educational research workers. The basic concepts of statistical inference and prediction will be developed, including regression and prediction, hypothesis testing, analysis of variance, and partial and multiple correlation. Emphasis will be placed upon the use and interpretation of the techniques studied. Prerequisite: Education 516.

Ed 518 Production and Use of Audio-Visual Materials

This course will deal with the production and proper utilization of both projected and non-projected visual materials and advanced techniques in producing tape recordings. Students will have the opportunity to produce projects with bulletin board materials, colored slides, filmstrips, dry mounted black and white pictures, wet mounted pictorial materials, lantern slides, transparencies, felt-boards, marionettes and puppets, models, dioramas, and tape recordings. The work will consist of both lecture and laboratory experiences. Prerequisite: Audio-Visual Education.

Ed 522 Principles and Practices in Speech Improvement

This course will provide for a study of the normal development of speech, classroom methods in speech improvement, and special consideration for children handicapped in speech or hearing. Library research, project work, demonstrations and experimentation will be heavily stressed.

Ed 531 Reading Problems of Junior and Senior High School Students

This course is planned to help the secondary or special teacher to understand and participate in the developmental reading program at the Junior and Senior High School levels, and to work with those pupils who are not able to achieve satisfactorily because of reading problems.

Special help is given in the basic reading and study skills, the

diagnosis and correction of reading difficulties, the techniques of improving rate and comprehension, and the development of readiness for reading in the content field.

Ed 534-535 The Diagnosis and Remediation in Reading-Theory and Clinical Practice

This course deals with understandings, techniques, and materials that aid teachers to prevent, discover, and correct the weaknesses and wrong learnings in reading of the student who is not achieving satisfactorily. The instruments for study will include a variety of tests, informal evaluations, and other helps. All areas and all levels of reading are considered. This involves two (2) courses each offering two (2) semester hours credit. Prerequisite: Course(s) in Reading—Undergraduate, El 533 or Ed 531.

Ed 550 Thesis or Recital

Students writing a thesis for credit will register for this course.

Recital: Graduate students in music education will prepare and perform a formal recital under the guidance of their private teacher in their major performing area. Approval for the presentation of a recital in lieu of the thesis must be secured from the graduate committee of the Music Education Department. A student should secure approval for this event early in his graduate program, but the actual performance of the recital should occur close to the end of his graduate program.

ELEMENTARY

El 531 Curriculum Problems in Elementary Education

The curriculum will be studied in relation to local needs and resources. Special attention will be given to contemporary forms of organization and procedures for curriculum development. A student will concentrate his studies on a specific problem or area of interest.

El 533 Reading Disabilities of Elementary School Children

This course will consider the identification, causes, and correction of reading disabilities. The mechanics, psychology of reading, and emotional factors involved will be studied.

El 541 Special Problems in Elementary Social Studies

The content of the social studies in the elementary school as it contributes to world understanding and the American cultural heritage will be included in this course. Each student will concentrate his studies on a special problem or area of interest.

El 542 Arithmetic in the Elementary School

An overview of the development of arithmetic as a part of the elementary school curriculum will be presented. It will emphasize curriculum development based upon research in arithmetic, special problems in the teaching of arithmetic and the literature which should be known to a teacher of arithmetic. Prerequisite: The Teaching of Arithmetic.

El 543 Resource Materials in Elementary Science

This course is designed to give the elementary teacher experience with the literature, equipment, and materials used in teaching science in the elementary school. References dealing with experiments, demonstrations, and identification of plants and animals will be studied. Experiments and demonstrations will be emphasized. Science kits will be prepared which contain basic equipment that may be used in classroom situations. Field trips will be taken to observe materials in real life situations. Given in summer school only.

El 544 Recent Trends in Elementary Language Arts

This course will deal with trends, problems, and recent contributions of research in the language arts. Areas will include elementary English, spelling, penmanship, and children's literature. Each student will concentrate his studies on a special problem or area of interest.

El 545 Experimental Studies in Art Education

Teachers will undertake art experiences in various media as they are adapted to the provision of art experiences for the child. Emphasis will be placed on the stages of growth, type of motivation, and ways of administering stimuli. The class will study the exceptional child to learn to recognize and encourage evidences of art potential as well as wholesome self-expression.

El 546 Modern Procedures and Skills in Elementary Music

The purpose of this course is to provide the elementary teachers with new developments and techniques recommended for music education.

ENGLISH

EngS 521 Modern European Fiction

This course offers an intensive study in translation of the major fiction writers of the twentieth century exclusive of British and American. The older generation—Proust, Gide, Kafka, and Mann—will be studied in relation to representatives of contemporary Europeans such as Camus, Moravia, Hesse, Silone, and Pasternak.

EngS 522 Chaucer

The works of Geoffrey Chaucer are studied with special attention to the Canterbury Tales and Troilus and Criseyde. Pronunciation, versification, language, and textual problems will receive consideration.

EngS 523 The Development of Modern English

The course will study the origins and growth of the English language and the sources of English words. An examination will be made of the changes in English usage, with emphasis on the varieties of current spoken and written usage as a result of geographical, class, and situational differences.

EngS 524 Contemporary Poetry

This course provides for special studies in the work of twentieth-century American and British poets.

EngS 525 The Early English Drama

The development of the English drama from 900 to 1500, with attention to classical and indigenous influences on specific plays and types of plays, will be studied.

EngS 526 Shakespeare and His Contemporaries

Plays by Shakespeare and some of his predecessors, contemporaries, and successors will be read. Plays will be chosen from the work of Marlowe, Lyly, Greene, Kyd, Jonson, Dekker, Beaumont, Fletcher, Webster, and, of course, Shakespeare.

EngS 527 Restoration Drama

The British theatre and its plays from 1660-1700 will be studied. Among the playwrights will be Dryden, Otway, Congreve, Shadwell, Wycherly, Farquhar, and Vanbrugh.

EngS 528 Milton

This course provides for special studies in the prose and poetry of John Milton, with attention paid chiefly to Paradise Lost and the lyrics.

EngS 529 Wordsworth and Keats

This course will concentrate on the poetic values, religious conflicts, and social issues that affected the writings of two major Romantic poets. Practice will be given in analyzing form and tone as a guide to meaning.

EngS 530 Tennyson and Browning

This course provides for special studies in the poetry of Tennyson and Browning. Attention is given to the Victorian milieu and to the development of Tennyson's and Browning's philosophy as it is reflected in their work.

EngS 531A Major Writers: Emerson, Thoreau, and Haw-thorne

Emphasis is on discussion of the ideas developed in WALDEN, A WEEK ON THE CONCORD AND MERRIMACK RIVERS. Emerson's ESSAYS, FIRST AND SECOND SERIES, and three of Hawthorne's novels, as well as some of the shorter writings. Each student is responsible for investigating one particular area of comparison among the three writers.

EngS 531B Major Writers: Faulkner and Hemingway

This course considers the novels and short stories of William Faulkner and Ernest Hemingway, with attention to each writer's influence on modern fiction.

EngS 532 Styles of Acting

This course will deal with the wide variety of styles of acting that are required in a well-balanced program of play selection. Emphasis will be upon materials and methods that will help an actor solve the problems of the different periods, styles, and types of acting.

EngS 533 British Drama Since 1880

A study of the structure of the play and the elements of action, theme, and character in representative plays of various periods and cultures.

EngS 534 Types of the Novel

Standards are established for such genres of the novel as the Historical Romance, the Novel of Ideas, the Novel of Manuers, Satirie Fantasy, English and American novels are read in several of these categories.

EngS 535 Criticism

This is a course in the principles of literary criticism. Attention will be paid to major works of critical theory and to practice in the application of these principles.

EngS 542 The Teaching of English in the Secondary School

A seminar in the teaching of literature and oral and written composition. Studies will be made of the special problems of the

English teacher. Open only to those holding a certificate to teach English.

EngS 545, 546 Seminar in Play Production I, II

This course assumes that the student has had some experience in directing plays. Its aim is to provide a basis for comparison, a method of evaluating one's own procedures, and a clear-cut organizational pattern which may be helpful in teaching directing.

Course II will stress the aesthetic principles of play directing.

EngS 549 Bibliographical Methods in English

This course offers the student practical training in the special methods and materials of research in English.

FOREIGN LANGUAGES

FL 521 Language and Society

The work of this course is designed to inform the student as to the salient facts of language and its fundamental role in the development and continuity of society and culture. Some points considered are: language families and their characteristics, factors of linguistic change and development, reciprocal influences of culture and language, linguistic borrowing, language and religion, and systems of writing.

FL 522 Applied Linguistics

This course is designed to contribute to two closely related objectives: a practical introduction to the reading of a foreign language (normally French or Spanish); and an examination of certain linguistic phenomena with particular reference to the foreign language in question and English. Attention is given to similarities and differences between the foreign language and English, their mutual influences, the cultural implication of these influences, and how language reflects culture and in turn modifies it.

GEOGRAPHY

Geog 521 Advanced Human Geography

Advanced Human Geography will develop case studies of particular regions in various parts of the world and will analyze, where appropriate, the effect of geography on major events in the news. The course builds onto the principles of geography learned in undergraduate World Geography.

Geog 522 Political Geography

Geographic factors and conditions are analyzed as they are related to the character and function of states. Political institutions

are evaluated in light of modern and historic geographic conditions. Emphasis is given to the great world powers and geopolitical thought.

Geog 523 Urban Geography

An analysis is made of city types, patterns, and functions as influenced by geographic conditions and other factors. City planning techniques and field study are utilized.

Geog 525-545 Geography Seminars

Seminars are designed to let the student develop to his greatest potential. Each region is examined in detail for soil, topography, climate, vegetation, population, and the interrelationships evolved. Great stress is placed on individual study and class discussion rather than lecture. Prerequisite: World Geography (undergraduate).

Geog 525—Africa, South of the Sahara

Geog 526—India, Pakistan and Indo-Chinese Peninsula

Geog 527—Mexico, Middle America and West Indian Islands

Geog 528—South America

Geog 530-U.S.S.R.

Geog 531-Northwestern Europe

Geog 532-Mediterranean World

Geog 534—China, Korea and Japan

Geog 535-Australia and Pacific Islands

Geog 536—Polar Regions

Geog 537—Eastern United States

Geog 538—Western United States

Geog 539—Canada

Geog 550A-550B Geographic Readings in Geography (offered every semester on an individual basis by arrangement made through the head of the department)

550A consists of wide readings in the field of geography. Emphasis is upon the classics in the field. Study will be individual and will help the student become critical in his reading and study.

550B consists of reading upon a particular topic or region. Emphasis is upon knowledge and understanding of the selected area of study. Study will be individual and will help the student become more expert with a small area of learning.

Geog 551 Professional Problems in Geographic Education

Classroom problems and discussions centered about "New Viewpoints in Geography" constitutes the core of this course. Individual reports, group discussion and research will constitute the principal methods of presentation.

Geog 552 Seminar in World Resources

World resource exploitation and utilization of the agricultural, mineral, forestry, and fishery industries are treated. Problems, such as energy utilization, food distribution, population growth, regional planning, factory location, conservation measures, and foreign trade, are considered.

Geog 554 Physiography of United States

This course presents a detailed study of the landforms and surface waters of the United States. The origin, classification, and structure of mountains, plains, hills, coast lines, rivers, lakes are discussed as well as the agents causing their birth and subsequent modification, agents such as glaciers, stream erosion, wind abrasion, tides and ocean waves.

Geog 555 Advanced Cartography

This course covers (1) map preparation to illustrate geographic reports; (2) map preparation from field data (triangulation and plant table); (3) map preparation from aerial photographs; (4) map preparation from existing cartographic materials and intelligence data. Modern techniques of plastic relief, scribing, color separation, as well as the capabilities of the newest cartographic and photogrammetric instruments are presented. Dependent upon class size and student interest, a field trip through one of the modern mapping agencies of the United States government may be arranged.

Geog 556 Map and Photographic Interpretation

Maps and aerial photographs enable the geographer to correctly grasp the spatial perspective of the landscape; they enable him to garner much geologic, economic, land use, transportation, strategic information quickly without costly, lengthy field trips—and often for areas that may be currently closed because of political or other animosity. This course develops the ability of the geographer to obtain a maximum of correct information by becoming familiar with the tools of photogrammetry and aware both of the limitations and usefulness of maps and aerial photographs.

Geog 563 Field Course in Geography

The use of field tools and techniques are used in the study of a specific area. Emphasis is upon skill and interpretation of areal patterns of geographic phenomena.

GUIDANCE

Guid 531 Philosophy and Principles of Guidance

This course is designed to give an over-all view of the role of guidance in the educational program. It deals with the function and implementation of guidance services, duties of guidance functionaries, types of guidance organizations, and the relation of the curriculum to guidance and of the teachers to the guidance worker. Guidance practices used in helping solve student problems of adjustment are stressed. This course is prerequisite for all other courses in guidance.

Guid 532 Psychology of Growth and Development

This course is designed to provide insight into how people grow and develop from infancy to old age. Maturation, learning, and their interrelationships are studied. Physical growth patterns are noted along with emotional, intellectual, and social development with implications for the school, community, and home.

Guid 533 Evaluative Methods in Guidance I

Emphasis in this course is placed on intelligence, personality, and special abilities testing. Consideration is given to source, cost, reliability, validity, standardization, and other pertinent aspects. Prerequisite: Education 516.

Guid 534 Evaluative Methods in Guidance II

This course will be a selective and intensive study of achievement tests, vocational interest tests, rating scales and other evaluative instruments useful in guidance work. Emphasis will be placed upon criteria for selecting and evaluating tests, and upon interpreting them for purposes of diagnosis and counseling, Prerequisite Education 516 and Guidance 533.

Guid 535 The Study of the Individual (Case Studies)

This course is designed primarily to study the principles, problems, methods, and content involved in developing case studies Consideration will be given to the kinds and the scope of data needed for understanding and to the role and the relationships of the individuals concerned.

Guid 536 Occupational and Educational Information

In this course emphasis is placed upon the collection and evaluation of occupational material, its proper filing, and the uses of such information in vocational counseling. Educational information relating to vocational choice and preparation; sources of occupational literature; occupational studies; and vocational surveys are included in the course, Prerequisite: Guidance 531.

Guid 537 Techniques Used in Counseling

This course deals with the behavior of individuals and with the theories and principles of counseling, particularly as they may apply to the work of the classroom teacher and guidance counselor in the public schools. Personnel techniques used with individuals and with groups will be studied, and attention to both diagnosis and treatment will be given. Testing techniques treated in other courses will not be taught; their contribution in counseling, however, will be considered. Prerequisite: Guidance 533, 534.

Guid 538 Organizing and Administering the Guidance Program

This course includes the purposes, services, lines of authority, types of organization, personnel, and physical equipment in guidance. Both wide and specialized approaches are considered. Prerequisites: Education 516: Guidance 533, 534.

Guid 539 Group Guidance

This course deals with the major objectives of guidance through group procedures and the common types of group-guidance activities which will lead to the establishment of student readiness for individual counseling. Articulation programs, orientation, homeroom activities, courses in adjustment problems, the extra-curricular program, and special programs as career and college days are considered. Prerequisite: Guidance 531.

Guid 540 Clinical Techniques in Guidance

This course offers practical experience in the use of clinical instruments in the field of guidance. Prerequisite: Approval by Director of the Psychological Clinic.

Guid 551 Individual Diagnosis in Guidance

Opportunity is provided in this course for intensive study and unalysis of case materials involving the personal, social, educational, and vocational problems and adjustment of elementary, secondary, and college students. Possible interpretations of behavior and recommendations for the individual's future will be discussed. Prerequisites: Guidance 533, 534, 535.

HEALTH—PHYSICAL EDUCATION

HPe 521 Advanced Seminar in Health and Safety

This course will explore the basic health and safety needs of students. It will deal primarily with the results of a study of scientific articles on health which have appeared in medical, public health, and allied professional journals over a period of five years.

The chief purpose is to orient the student to this vast field of ever changing data in health and safety and to have him utilize it for his own consumption.

HOME ECONOMICS

HE 521 Problems in Family Living

Transportation, communication, and technological advances with labor saving and other devices are bringing so many possibilities and changes to the home that it is necessary constantly to challenge the home's adjustment. The course will utilize knowledge and research from science, medicine, technology, sociology, economics, art, and psychology in being better able to: provide food, shelter, clothing; utilize time, energy, and material resources; and increase day to day satisfactions in living. Seminars and the problem solving method will be used.

MATHEMATICS

Math 510 Seminar in Mathematics I (Arithmetic, Algebra and Informal Geometry)

This course will acquaint the student with recommended curricula for the 7th, 8th, and 9th grades in mathematics. Emphases will be placed on programs for the slow, the average, and the gifted learners. It is planned that guest lecturers will discuss the Illinois. Maryland, and Yale plans and that demonstration classes will be observed. Students will work on selected individual problems.

Math 511 Seminar in Mathematics II (Senior High School Math)

This seminar will acquaint the student with recommended curricula for the 10th, 11th, and 12th grades in mathematics. Emphases will be placed on up-dating curricula now being followed by the in-service teachers. Special attention will be given to teaching topics of equation, sets, graphs, functions, and geometry including elements of analytic geometry. Guest lecturers of Seminar 1 will be available to this Seminar also.

Math 521 Basic Concepts in Mathematics

This course aims to develop an understanding of mathematics as a system of thought and will include such topics as kinds of number, scales of notation, the nature of arithmetic operations, basic principles of general numbers and measurements, the history and development of number and some of the contributions to our civilization, and elementary discussions of mathematics developed in the past one hundred years.

Math 530 Differential Equations

This course deals primarily with the solution of differential equations of the first and second order and linear equations with constant coefficients, with applications to geometry and physics.

Math 531-532 Advanced Calculus I, II

The concepts to be developed in this course are considered basic in analysis. Discussions will pertain to limits and continuity, differential and integral calculus of functions of several variables, line and surface integrals, and an introduction to the theory of infinite series.

Math 533 Infinite Series

A development of the theory of the convergence of series. Among the topics considered are: sequences; series of positive, arbitrary, and variable terms; double series, power series; types of convergence and the associated operations with series.

Math 534-535 Functions of a Complex Variable I, II

This course is a study of the properties of complex numbers and functions, including: analytic and elementary functions, the Cauchy-Goursat integral theorem, contour integrals, power series, residues and poles, conformal mappings, Schwarz-Christoffel transformation, and analytic continuation.

Math 536 Functions of a Real Variable

A systematic development of some of the modern theories of differentiation and integration, which proceeds as follows: the theory of sets, limits, continuity, derivatives, convergence of series, implicit function theorems, and the Lebesgue and Riemann integrals.

Math 560 Foundations of Algebra

Intended as an introduction to some of the concepts of modern algebra, this course will be a discussion of the theory of matrices and linear transformations, linear spaces, and bilinear and quadratic forms.

Math 561 Modern Algebra

The discussion of the topics of Math 560 will be continued, followed by a survey of abstract algebraic structures such as groups, rings, and fields.

Math 562 Fundamental Concepts of Analysis

This course will include discussions of the basic concepts of analysis, including derivative, limit, and integral. Several possible

formulations of each concept will be compared. Consideration will be given to applications in the natural and social sciences. The course should enable teachers to develop basic concepts of the calculus in high school courses.

Math 571 Modern Geometries

This course will be a study of the invariant properties of geometric forms under transformation. Linear dependence of points and lines, harmonic division, and cross ratio will be treated, followed by an introduction to projective geometry, metric geometry of the complex plane, affine and space geometry.

Math 572 Projective Geometry

The topics of Math 571 will be developed in more detail from the synthetic point of view. Discussions will concern: projection and section, ideal elements, projectively related forms, harmonic sets and resulting metric properties, polarity, involution, and conic sections from a projective standpoint.

Math 573 Topology

A study of the properties of geometrical figures under topological transformations will be conducted, considering the theory of sets, topological spaces, continuous mappings, compactness, connectedness, and function spaces.

Math 580 Symbolie Logic

A survey will be made of the classical and the modern systems of logic and their use in testing the validity of mathematical reasoning. Algebraic structures in logical systems will be discussed, followed by a brief study of effective computability, Godel's theorem, and related topics.

Math 581 Advanced Statistics

The theory of modern statistical analysis will be developed. The major areas of discussion will be: distribution functions, sampling theory, statistical inference, regression theory, and an introduction to multivariate statistical analysis.

Math 582 Theory of Probability

This course deals with the basic concepts of probability theory with emphasis on practical applications. Topics include: the theory of permutations and combinations, distribution functions, Bernoulli's and Bayes' theorems, and the normal and poisson distributions.

Math 583 Linear Programming

This will be a basic presentation of the theoretical, computational, and applied areas of linear programming. The simplex method and other computational techniques will be discussed. Applications will pertain to: transportation type, assignment, and combinatorial problems, scheduling and inventory theory, and linear programming.

Math 584 Insights Into Modern Mathematics

This course involves a study and discussion of the twenty-third yearbook of the National Council of Teachers of Mathematics. Topics include the concept of number operations with sets, limits, functions, and topology. This course provides reference material for both the content and the spirit of modern mathematics.

MUSIC EDUCATION

Mus 501 Advanced Choral Conducting

A diagnosis of each individual's conducting technique will be made and corrective procedures introduced. Material for this process will include the large choral works with and without accompaniment. The student will be expected to further develop skills in reading score.

Mus 502 Advanced Instrumental Conducting

An intensive study of larger instrumental works will be developed especially treating the specific conducting techniques necessary to the successful performance of these compositions. The skill development of each individual will be stressed.

Mus 503 Music Literature of the Baroque Era

A stylistic analysis of the period from Monteverdi through J. S. Bach and G. F. Handel. The chronological limitations of the course will be approximately from A. D. 1600 to 1750. Extensive use will be made of the scores and recordings as well as all live performance available in the area.

Mus 504 Music Literature of the Eighteenth Century

An intensive study of the development of standard musical forms and the modern orchestra. The beginning of the period to be considered is marked by the Mannheim School, continues through Haydn and Mozart, and concludes with early Beethoven.

Mus 505 Music Literature of the Early Romantic Era

A detailed study of representative compositions and composers from the later works of Beethoven through the Lieder, changing orchestral styles and the romantic opera.

Mus 506 Music Literature of the Late Romantic Era

A careful consideration of selected works of the latter part of the Nineteenth Century including the Music Drama, the symphonic poem, trends, and styles as they emerged.

Mus 507 Music Literature Since 1900

A study of the main currents of musical thought and an analysis of trends and styles since the turn of the century with particular reference to selected compositions of Prokofieff, Stravinsky, Milhaud, Bartok, Hindemith, Schoenberg, Shostakovitch, et al.

Mus 511 Composition

Composition of music in the various song forms through the rondos and the larger sonata allegro form. The student will be guided in his compositional attempts by careful analysis of similar forms of major composers. Instruction will be highly individualized as to the forms attempted and will depend considerably on the personal interest of the student.

Mus 512 Advanced Orchestration

Consideration will be given to the problems of scoring for the full symphony orchestra as well as the string orchestra and the chamber orchestra. Students will be expected to produce a full score and orchestral parts so that the orchestration may be tested by actual playing by the College Symphony.

Mus 513 Advanced Band Scoring

The problems of scoring for the modern concert band will be considered in detail. Actual scoring for the full symphonic band will be one of the major projects of the course. In addition, the problems of scoring for the brass band, the woodwind choir, and the percussion ensemble will also be considered. Scores and band parts for all projects will be produced by the student for an actual test playing by the College Symphonic Band.

Mus 514 Advanced Choral Arranging

Four-part writing for chorus will be reviewed. Five, six, seven, and eight-part writing will comprise the large part of the course. Special consideration will be given to the problem of writing for men's voices and for women's voices. All projects of the class will be duplicated in full choral score for actual test performance by one of the major vocal groups of the college.

Mus 515 Canon, Double Counterpoint and Fugue

The application of contrapuntal techniques through analysis and creative writing. Included will be the study and writing of two-

and three-voice canons; two- and three-part inventions; and two-, three-, and four-voice fugues.

Mus 516 Form and Analysis

A study of representative compositions of various periods, with emphasis on formal harmonic and stylistic analysis. The student will develop the basic analytical techniques necessary for the analysis of music of any period.

Mus 521 Music Literature and Materials (see Elementary Education Program)

The purpose of this course is to further enhance the musical background of the elementary teacher through acquaintance with suitable literature and materials.

Mus 530 Music Criticism

Consideration of the problems involved in evaluating musical performance of many levels. A study of various approaches to critical evaluation of musical performance. Several detailed procedures of approaching the adjudication of musical groups of various levels will be developed.

Mus 531 Administrative Problems in Music Education

A review of the conventional administrative organization of music education in the public schools. The role of the music director, the music specialist, the consultant, and the music resource teacher will be carefully defined. Consideration will be given to the problems of scheduling in the public school. Current issues concerned with music education and public education in general will be considered, including curriculum development.

Mus 532 Seminar in Music Education

There will be a considerable amount of freedom in the development of this course. The content each time it is offered will be governed by the specific needs of the students programming the course. These needs will be of two general classes: (1) Strengthening areas of weakness, (2) exploring further, areas of interest.

Mus 533 Comparative Choral Methods

Materials and procedures of the preparation of vocal groups for public performance. Several accepted, yet contrasting, approaches will be considered, ranking from the Christiansen technique to that of John Finley Williamson. Special attention will be given to program building.

Mus 534 Comparative Instrumental Methods

Consideration will be given to those materials and procedures which have been proven by actual use in the United States. These various approaches will be compared and given a critical analysis by the class. Rehearsal techniques, efficient use of time and basic motivation will be stressed. The development of interesting programs will be considered.

Mus 535 Psychology of Music Education

An analysis of the latest evidence produced by the field of psychology in music education as applied in actual classroom situations. A review of the latest developments in psychological research relating to specific music education problems will be included.

Mus 536 Church Music

The liturgies of all conventional church denominations will be analyzed from the standpoint of the duties of the church choir conductor. Materials and procedures applicable to volunteer groups will be reviewed and analyzed. The problem of rehearsal attendance and basic motivation will be considered. The course will also include recruitment, budgetary problems, and basic relationships with the administration of the church or synagogue involved.

Mus 540-591 Applied Music

The following courses will be taught in the form of private lessons geared to the individual student and aiming at maximum progress of each student, depending on the background of the student and the time available:

Private Piano Mus 540, 541, 542, 543 Mus 544, 545, 546, 547 Private Organ Private Voice Mus 548, 549, 550, 551 Private Violin Mus 552, 553, 554, 555 Private Viola Mus 556, 557, 558, 559 Private Cello Mus 560, 561, 562, 563 Mus 564, 565, 566, 567 Private Clarinet Mus 568, 569, 570, 571 Private Flute Mus 572, 573, 574, 575 Private Oboe Mus 576, 577, 578, 579 Private Bassoon Mus 580, 581, 582, 583 Private Trumpet Private French Horn Mus 584, 585, 586, 587 Private Trombone Mus 588, 589, 590, 591

PSYCHOLOGY

Psy 531 Psychology of the Exceptional Child

This course is designed to aid the student in meeting the needs of those children who deviate from the typical in areas of physical, mental, emotional, and educational development. Consideration will be given to methods of instruction and curricular material.

Psy 532 Studies in Child Adjustment and Guidance

This course considers the problems of child adjustment in relation to causative factors. It stresses the dynamics of the child's need to make an adequate adjustment in his relations with other children and adults. The various causes of childhood maladjustment and the classroom teacher's function in remedial treatment will be explored. Case material will be used with direct application to specific problems.

Psy 533 The Psychology of Personality

A consideration of the varied approaches to the problem of understanding personality. The objective will be to give the student an overview of each of the methods of analyzing personality that has, over an extended period of time, withstood careful scrutiny and investigation. The course will undertake some measure of integration by indicating similarities among the various approaches.

Psy 560 Rorschach

This course gives a brief study of the Rorschach technique, its administration, scoring, and interpretation. Demonstrations will be presented to the class. Students will give tests under supervision.

Psy 561 Advanced Psychological Practicum

Structured to provide the graduate student, qualified in either psychology or guidance, with a working experience in a clinical situation. The student will participate, under supervision, in educational, vocational, and personal advisement. Registration only with permission of the Director of the Psychological Clinic.

SCIENCE

Sci 521 Recent Advances in Science

Designed to bring the student up-to-date with the more recent developments in the field of science that have taken place in the past twenty-five years, this course assumes a background of information of the fundamentals of biological science and physical science.

Sei 531 Atomic Structure

This course includes a brief review of fundamentals of electricity and magnetism. Following this, the major topics are charged particles, atomic structure, electromagnetic radiation, waves and particles, electron configurations and atomic spectra. Prerequisites: General Physics, Mathematical Analysis.

Sei 532 Interrelationships in Science

This course is designed to help the student to evaluate the major divisions of scientific knowledge. Various problems will be selected and the contribution of biology, chemistry, and physics, to the solution of these problems will be studied. Three hours per week. Prerequisites: Chemistry I. H. Physics I. H. and Biology I. H.

Sci 533 History of Science, Scientific Literature, and Terminology

This course is designed to broaden the general scientific culture of those already prepared to teach science in the three respective fields of biology, chemistry, and physics. The course is an intensive study of the history of science throughout the world and an appreciation of the literature, terminology, the scientific method, and philosophy of science.

Sci 534 The Solar Family

This course is planned as a study of the characteristics and behavior of the planets and their satellites, asteroids, meteor, comets and other phenomena of the solar systems. One of the major topics will be to investigate and criticize several of the theories as to its origin. It will require some treatment of celestial mechanics, a topic which will be briefly reviewed as part of the course, but will not advance to a level which requires a background of calculus.

Sei 541, 542 Comparative Anatomy I, II

This course is a comparative study of the structure of representatives of the classes of vertebrates. The shark, necturus, and cat will be dissected. Three hours per week throughout the year. Prerequisite: Zoology 1, 11.

Sei 543, 544 Embryology I, II

A comprehensive course tracing the maturation of gametes, tertilization, cleavage, differentiation, organogenesis, and development in the vertebrates. Major emphasis will be placed on such phenomena in the chick, with correlative work on the frog and pig. A two-semester course with both lecture and laboratory work that meets three hours a week. Prerequisites: Zoology I, H, Comparative Anatomy is desirable.

Sci 545 Microtechnique

A course designed to acquaint the student with the procedures involved in the production of microscope slides. Techniques of preparing whole mounts, microtome sections and serial sections will be covered. Both plant and animal materials will be used. A one-semester course that will meet three hours per week, at least two of which will be spent in independent slide preparation. Prerequisites: Botany I. II, Zoology I. II.

Sei 551, 552 Taxonomy of Plants I, II

This course includes the collection, identification, and classification of vascular plant species with special emphasis on family characteristics and phylogeny. Three hours per week throughout the year. Prerequisite: Botany I, II.

Sei 553, 554 Taxonomy of Animals 1, II

This course is a study of the classification system and its application to the identification of animals. Both Invertebrates and Vertebrates are included. Students are required to make collections of the common animals of the region. Prerequisite: Zoology I, II.

Sci 555 Principles of Plant and Animal Distribution

Consideration will be given to the scientific principles underlying the geographic distribution of plants and animals. The factors causing speciation, the centers of origin, and the effects of climate, barriers, and geologic age on migration and range will be studied. Prerequisites: Botany I, II, Zoology I, II.

Sci 561 Plant Structure

The anatomy of typical representatives of the vascular plants will be studied. Consideration will be given to the variations in structure and development of root, stem, leaf, and flower among various plant families. Prerequisite: Botany 1, II.

Sei 562 Animal Physiology

Through lectures and laboratory work, students will consider the events of digestion, molecular transport of nutrients and wastes, gaseous exchange, excretion, muscular movement, and control by endocrines and nervous tissue. Prerequisites: Zoology I, II, Inorganic Chemistry 1, II.

Sci 563 Physiology of Plants

Cell physiology including respiration, photosynthesis, fermentation, enzyme catalysis, auxins, and membrane phenomena will be stressed. Tropisms, mineral nutrition, water metabolism, and the

translocation of solutes are additional areas of discussion and experimentation.

Sci 564 Problems in Biology

The course offers the opportunity for a student to conduct a literature search combined with controlled experimentation on a limited biological problem. Each student will choose a problem of interest from a field previously studied and work in consultation with his instructor. Prerequisites: six hours of graduate work in Biology and consent of the department.

Sei 546, 547 Biochemistry I, II

A study of the chemistry, metabolism, and function of the principal constituents of living matter. Three hours per week throughout the year. Prerequisites: Analytical Chemistry, Organic Chemistry.

Sci 548, 549 Physical Chemistry I, II

This course considers the gases, liquid, and crystaline states of matter, with relative molecular structure and physical properties. Thermochemistry, thermodynamics, electrochemistry, photochemistry, mechanochemistry, colloidal chemistry, nuclear chemistry, and relative problems of solutions, heat, work, and heat capacity, solutions of non-volatile solutes, homogeneous and heterogeneous chemical equilibria, ionic equilibria, and quantum theory will be studied. Three hours per week throughout the year. Prerequisites: Physical Chemistry, Integral Calculus.

Sci 565, 566 Advanced Inorganic Chemistry 1, 11

Descriptive chemistry of selected elements and compounds. Interrelationship of atomic structure, chemical properties, and physical properties. Applications to experimental work. Prerequisites: Qualitative and Quantitative Chemistry or Qualitative and Physical Chemistry.

Sei 567 Analytical Mechanics I

The topics of this course are kinematics, particle dynamics, gravitation, free and forced harmonic motion. The treatment of these topics involves the use of vector methods and the differential and integral calculus. Prerequisites: General Physics, Mathematics through Differential Equations.

Sci 568 Analytical Mechanics II

The topics of this course are the dynamics of rigid bodies, wave motion, and statics of particles and rigid bodies.

Sci 569, 570 Electricity and Magnetism I, II

Topics developed are D.C. and A.C. Circuits including properties of circuit elements, electrostatic and magnetic fields, magnetic properties of materials, oscillating circuits and Maxwell's theory of electromagnetic radiation. Some elementary concepts of vector analysis are developed and used where they clarify the treatment. Three hours lecture per week, including some laboratory work and demonstration. Prerequisites: Sci 181, 182, Physics I, II, or the equivalent, mathematics through differential and integral calculus.

Sci 571 Advanced Laboratory Practice

Study of selected topics in physics using advanced laboratory and mathematical techniques.

Sci 572 Demonstrations in Chemistry and Physics

Classroom and lecture demonstrations to be prepared and presented and evaluated by students and instructor. The course will include some elementary instruction in glassworking. Prerequisites: Chemistry I. II. Physics I. II.

Sci 510 Problems in Science Education

This course will examine specific classroom problems in the light of current research in science education. Emphasis will be given to new approaches to curriculum revision, the introduction of concepts of modern science, the use of group dynamics in classroom situations, and recent efforts directed towards achieving the objectives of science education. Prerequisite: six hours of science at the graduate level.

SOCIAL STUDIES

SS 510 New Viewpoints in Social Studies Instruction

Starting with the conclusions developed from recent research in the several social sciences, a study will be made of the curricular and instructional changes which have been proposed to close the gap between what we now know about human behavior and what is generally taught in social studies courses.

SS 514 Research Methodologies in the Social Sciences

Selection of a research topic, techniques of locating and using source materials, the evaluation of evidence, the organization of the tested data, and the exposition of the tested data according to approved forms. Methodologies of value to students of politics, economics, or sociology will receive attention, in addition to those techniques usually treated in historiography.

SS 521 Contemporary American Issues

This course will be conducted in seminar fashion, centering its attention on one or two major contemporary American issues. Class procedure will include lectures, oral reports, and a term paper.

SS 531 Economic and Social History of Pennsylvania

This course analyzes the economic and social background of Pennsylvania with emphasis on regional development. The interplay of such factors as industrialization and immigration on organizational movements will be studied through the problem approach.

SS 532 U. S.-British Commonwealth Relations

Emphasis is placed on those aspects of United States and Commonwealth backgrounds and policies that aid mutual understanding and international accord in the modern world.

SS 533 Social and Intellectual History of the United States

An analysis of the cultural forces which have helped to shape modern America. Ways of living characteristic of certain periods will be studied, together with the more significant social-reform movements and their attendant systems of thought.

SS 541 Modern European Problems

A course area that considers Europe from the economic, social, political, diplomatic, and cultural points of view. Attention is also given to specific problems and to the role of European powers in world affairs.

SS 542 Contemporary Latin American Problems

A study of the major cultural, economic, political, and related problems currently confronting the Latin American countries.

SS 543 Modern Asian-African Problems

To understand better the nature and problems of a large portion of the non-Western world, the emphasis will be placed upon an analysis of contemporary, social, economic, and political developments in selected areas of Asia and Africa.

SS 551 International Economics

The nature of the world economy, international trade, international investment, current international institutions, and the foreign economic policy of the United States.

SS 552 Comparative Economic Systems

Basic economic issues in capitalism, socialism, communism, and fascism, and their relationships to political and social problems.

SS 553 Contemporary Economic Issues

Attention will be centered on problem areas of the domestic economy in this course. The primary focus in each semester will be determined by student-instructor interest.

SS 561 Social Policy Studies

This course will attempt to develop answers to the general question, "What courses of social action will best serve the general welfare?" Focusing on several key issues on the American social scene, the class will examine the genesis of each problem, the present conflict of values inherent in the problem, the alternative proposals for its solution, and the social consequences.

SS 562 Deviant Behavior

Crime as a social product. The social-individual analysis of criminal behavior, its treatment and prevention. Lectures, discussions, papers.

SS 563 Intergroup Relations

Problems and policies relative to selected groups, with special emphasis on recent trends in public opinion and the relationship of these groups to society. Lectures, discussions, papers.

SS 571 Foreign Policy Studies

This course considers selected problems in international affairs. Emphasis is placed on those problems and conflicts which have evolved in the post-war era, particularly as they relate to the position of the United States in World affairs. Specific problems are approached both in terms of the countries involved and in terms of the existing balance in the world economic, ideological, and power structure.

SS 572 Comparative Political Studies

A course that considers the theory, structure, policies, and problems of selected foreign governments. Specific political ideas and governmental institutions are also analyzed from the comparative point of view. Special emphasis is placed on comparing and contrasting ideas and institutions with those of the United States.

SS 573 Regional Political Studies

Examines the structure and function of state, county, and municipal governments. It emphasizes the problems faced by gov-

ernment at these levels and seeks solutions to these problems. Pennsylvania governmental forms are stressed but are contrasted with those of other states.

SS 581 Problems in Logic

A study of problems related to the methods of formal logic. Modern techniques of deduction with applications to philosophy and the exact sciences.

SS 582 Problems of Ethics

A study of conflicting philosophies of life and ethical theories.

SS 583 American Philosophical Thought

A study of the more original and influential philosophies developed in America from the colonial period to the present.

SS 591 Studies in Anthropology

A survey for graduate students of the evolution of man and culture, presenting the principal findings of physical and cultural anthropology.

SS 592 Comparative Cultures

A comparative study of selected examples of the world's cultures, from primitive hunters to modern industrial systems, as adaptations to their geographical and social habitats.

SS 593 The Science of Culture

An introduction to the major theories of cultural anthropology which are employed to account for the variety and structures of man's cultures.

Ed 540 Supervision of Student Teaching

Designed for supervising teachers and others working with student teachers, this course provides opportunity for the development of pertinent materials and for continuous evaluation of various aspects of the student teaching program. Stress is also given to evaluative procedures used in working with prospective teachers. Basic principles underlying an effective student teaching program are examined from both a theoretical and applied viewpoint. Prerequisite: Teaching certificate and teaching experience.

HPe 530 Workshop in Community-School Health Education

This workshop is concerned with school, community and public health including mental health, nutrition, dental, physical education, health services, environment, health teaching and evaluation. Special projects, consultation, visitation, discussions and sources of information and materials will be considered.

